



**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/733,041	12/11/00	BENOIST	J 108121

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QM01/0629

EXAMINER

EVANS, R

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 06/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/733,041

Applicant(s)

BENOIST, JEAN FRANCOIS

Examiner

Robin O. Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

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DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "receptacle" recited in claims 13-22 and the "dispenser head" recited in claims 11 and 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3-6, 8, 10, 15 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Each of the claims listed above recites a broad limitation followed by another limitation beginning with "preferably" which is a narrower statement of the range.

For example, claim 3 recites the broad recitation "a plurality of channels", and the claim also recites "preferably two to six channels" which is the narrower statement of the range/limitation.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 5, 7, 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lund.

Lund shows a dispensing head with a nozzle having a swirl chamber 42 with a chamber diameter CD in the range of .05 mm to 1.5mm, discharge orifice 42 with a diameter OD of about .35 mm, center post 26 and vanes 48 having an individual exit area (EA) in the range of .02 mm to .07 mm. The values disclosed in Lund's device can be used to meet the ratio limitations as recited in the claims. For example, using $EA = .02$, $CD = Ds = 1.5$, and $OD = do = .5$, the ratios are determined as $Ap/Ao = .415$ (which is less than .5) and $Ap/Ds.do = .076$ (which is less than .2). It should be noted that $Ap = EA$ times the number of vanes = .04 since Lund discloses in column 4, lines 43-46 the number of vanes being at least two.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lund.

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Lund's atomizing device shows all of the claimed limitations including the swirl chamber having a length H but does not disclose the ranges for the length of the swirl chamber. The length of the swirl chamber will be chosen to achieve the desired results wanted by the user, therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the length of the swirl chamber in the claimed range of .1 to .2 mm so as to be able to achieve a desired result.

As to claims 2, 4, and 6 and the limitations of the ratio A_p/A_o being less than or equal to .4 and the ratio of L_s/D_s , it is deemed that the ratios will be determined by the user depending on the desired spray wanted, since in column 5, lines 47-52, Lund discloses that the exit area, chamber diameter and orifice diameter are important and will be sized depending on the spray characteristics wanted.

As to claim 8 and the limitation of the size range of the orifice diameter, it is deemed that the orifice diameter will be determined depending on the other nozzle characteristics and the spray desired since Lund discloses that the orifice diameter sizing is important in achieving a desired spray, see column 5, lines 47-52.

9. Claims 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lund in view of Heeb et al.

Lund shows all of the claimed limitations but does not show the nozzle in an aerosol receptacle. Heeb et al. shows an aerosol receptacle for spraying deodorant and hair spray whose contents after filling are at a temperature of 20 C and a pressure in the claimed range. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have

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replaced the manual pump receptacle of Lund's device with an aerosol receptacle like the one shown by Heeb et al. so as to be able to spray a different type of product.

10. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke et al.

Burke et al. shows an aerosol receptacle with a dispensing head having a nozzle 36 exit orifice 34, center post 70, swirl chamber 66, and channels 65. Figures 8 and 10 shows an orifice diameter A, chamber diameter D and width of the channels G. Burke does not disclose the ranges of the swirl chamber diameter, exit area of the channels, or orifice diameter. It would have been obvious that one of ordinary skill in the art, depending on the product being sprayed and the pressures and particle size wanted, would determine the diameters of the exit orifice swirl chamber and feed channels employed since Burke discloses that these parameters are important (see column 1, lines 42-57 and column 3, lines 27-40).

As to claim 14 and the limitation of the type of propellant used in the receptacle, it is deemed that the type of propellant used in the aerosol receptacle will be determined by the user depending on the application the device is used for.

As to limitations of the content of the receptacle being cosmetic hair spray or deodorant, it is deemed that the contents of the receptacle will be chose by the user depending on the application of the device.

As to the limitations of the particle size, flow rate, temperature and pressure of the contents of the receptacle, it is deemed that the particle size, flow rate, pressure and temperature of the contents of the container will be determined depending on the spray desired by the user.

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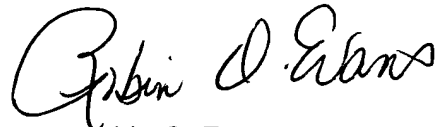
Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Buisson, Smith, Werding, and Magers et al. all show dispensers in the general state of the art of the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robin O. Evans whose telephone number is (703) 305-5766. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Scherbel can be reached on (703) 308-1272. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7766 for regular communications and (703) 308-7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Robin O. Evans
Examiner
Art Unit 3752
6/26/01

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June 26, 2001